

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Hiroshi FUKUMOTO, et al.

SERIAL NO: New Application

FILED: Herewith

FOR: LIQUID SPRAYER

GAU:

EXAMINER:



INFORMATION DISCLOSURE/RELATED CASE STATEMENT UNDER 37 CFR 1.97

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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**STATEMENT OF RELEVANCY**

Reference AP (4-294150) on PTO Form-1449:

Ink jets 7 are provided at intervals of several tens of microns on an end of a piezoelectric substrate 1. Voltage is applied between a conductive layer 9 which is in contact with an ink 12 inside the ink jet and a platen 10, so that the ink 12 is charged and receives a force exerted by Coulomb force in the direction of the platen 10. Under this condition, a driving signal of a certain frequency is input in between a driving electrode 2 and a common electrode 3, so that the ink is sprayed in a mist state to obtain a record on a recording paper. Controlling the time required for inputting the driving signal allows production of a record with a predetermined density. Since the Coulomb force exerts a force on the ink, the voltage amplitude of the driving signal to be input into the driving electrode is decreased compared to a conventional case.